

# CATS



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The Official Journal of the Capital Area Timex/Sinclair Users Group

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## Presidential Ramblings

Now that October is almost over, before the goblins and witches arrive to bollix up our computer efforts, it seems appropriate to recount a little about some of the nice things that have happened recently. Also, one unpleasant, though totally necessary and not unexpected, item.

Let me start with the negative item. We are advised that the Prince George's County New Carrollton Library where we meet will now be imposing a fee for use of its facilities. We will continue to schedule meetings for the second Saturday of every month as usual, however, since there would be a treasury-draining fee of thirty dollars a crack for the big meeting room, we opted through a member vote at last meeting to forego the big room (which our attendance record shows we do not need to house the masses of attendees) and use the smaller conference room which we, in the past, have used for our hardware sessions. The fee for that one is only fifteen. That won't drain our treasury too quickly. We are still scheduling workshop sessions starting at 11 AM, despite the fact that projects, of late, have evaporated, more or less. The workshop time does, nevertheless, afford valuable time for the early arrivals to discuss problems, avail themselves of the expertise of Herb on hardware or other questions, and, generally, chew the fat. (It also tends to keep down the verbal interchanges that frequently disrupt the general meeting.)

Now for something more positive and pleasant; at the risk of sounding like an AT&T TV commercial,

I am pleased to report that "one came back"- a former CATs member attended our tenth anniversary meeting and re-suscribed. (Why do we capitalize TV? Especially when linked with the word commercial. It seems to me that it only deserves lower case.)

Our anniversary meeting was a real showcase of antique, arcane, and abstruse hardware. Quite a few folks brought items for display and we ran some good competition to the Boston Computer Museum. It served as a good lesson on the evolution of the later Sinclair models as well as providing us with some hitherto unseen items, items known, at least to me, only as names. Joe Miller's tabletop was almost invisible as he had it covered with his collection of items for the ZX-81 and the TS-2068. He told us the name and purpose of each item. Instructive to say the least.

A panel of "experts" reminisced and provided some thoughts on the future of our machines and, after a break for festive food and drink, Tom Bent gave us an overview of his vast experience with our line of computers fielding some questions from the floor on technical matters. Things went so well that we had to postpone the demonstration of SPECTATOR, the program which makes a QL emulate a SPECTRUM. we barely got out on time.

For all the foregoing, we have to thank our doughty VP Hank Dickson who, almost single-handedly dreamed up the format and produced the wherewithal for our anniversary. (I can't understand why he's not in business for himself as an organizer/caterer. He'd make a mint.)

Hey members, make sure you have done your homework as 14 November again brings Carolyn Robbins to our podium with another section of practical application of ARCHIVE in the real world. Remember that at her first session, she assigned homework!

CUTHEN. (No, Virginis, it ain't a bleeding chicken.)

## From The Editor:

Last month was a big month for article submission. between submissions by members and a number items for me to write up, we had enough articles for last month and this month. I even have a new shareware program ready to test and review. You'll see it next month.

I'm glad we had lots left over from last month. For a almost two weeks last month, my QL has been down for the count. The power supply in my disk drives failed. Herb tried to have his magic wand over it, but no luck. It took me a while to find a vendor that carried just the power supply. It seems to be working, but an old quirk that FLP1 had before I got a FLP2 has returned. My disk drive will suddenly start seeking and be "offline" to the computer. Powering off and then on, of the disk drive fixes the problem.

One item of note, my days as Newsletter Editor are numbered. I've been selected for a job at Wright-Patterson AFB, Dayton, Ohio. After 4 years in the Pentagon, it's time to move on (for sanity sake). I will be leaving the latter part of this coming January. Sooo, who will be the next Newsletter Editor? Who's willing to take the job?

Until next month,

Happy Hacking,

Tim

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## Key Dates

- 14 November: CATS Meeting  
11:00 Workshop  
1:30 Executive Board Meeting  
2:00 General Meeting
- 25 November: Newsletter Deadline  
For the Next Issue
- 12 December : CATS Meeting

## Meeting Subject

Carolyn Robbins is presenting the second of a series of lessons on how to use Archive. Bring your computer and get a hands-on lesson in real-world use of Archive. Remember, in first lesson, Carolyn did assign homework. Did you do yours?

## News From Don Lambert

[ Don Lambert is the editor of the ZXir QLive Alive Newsletter. This is taken from a letter that Don wrote to me. I'm publishing part of it because it contains information pertinent to the group (plus Don said it's OK) - ED ]

ZXir QLive Alive! is \$10.00 per individual or SUGs. Send checks to Abed Kahale, 335 W Newport Rd, Hoffman Estates, IL 60195-3106. Abed is also doing the mailing of ZQA for Bob Swoger.

SNUG is in the process of turning all monies left over and the membership lists to T/SNUG. Currently the membership/ mailing lists are being compiled to one and then the list and the money will be transferred to T/SNUG and T/SNUG will continue the newsletter by sending ZXir QLive Alive! till the SNUG money is used up. For those that want a refund, this is being discussed.

Bill Pedersen has a disk drive program that works with the Oliger and Larken/Oliger disk interface that reports the RPM of the first 8 revolutions of the disk drive, on turn-on. According to Bill, both the Larken and the Oliger interface work best if the disk drives keep their RPM under 300. I checked six drives and only one had the RPM higher than 300. Also, the variation is important. The less variation the better the reliability of the drive. The program requires that the disk interface use the 1770 controller chip. Currently the program won't work with a pure Larken disk interface, since it needs the correct OUT number. But this is annotated on the listing.

[ This program has been passed on to Joe Miller (our resident T/S 2068 guru) for review - ED ]

The column by Joe Miller mentioned CLASSIC TIMEX SINCLAIR COMPUTERS, which I put out on my own

out of my allowance. If you will note: I put out the issue about the same time I was asked by Bob Swoger to be Editor of ZXir QLive Alive!. From the time I was asked and the first issue was put out was a matter of 16 days, so you know it was fast. I dropped CLASSIC TIMEX SINCLAIR COMPUTERS since the issue of the SNUG newsletter never got off the ground, like it was supposed to. I felt that we needed a National newsletter and a great organizer took up my idea which I had not really expressed.

Now to Ruth Fegely's input. The LogiCall by Bob Swoger is not 4.1, but the copy that I have is 4.3 and there is even later revisions. Otherwise what she mentions is correct. The software that will LOAD an MS-DOS disk, so far as I know, is for the T/S 2068 and the Larken disk drives. It will convert an MS-DOS ASCII file to an MSCRIPT file, track by track, although it does several tracks at once. There is one peculiarity - it will list the track number and give an error message with each track. Ignore the error message since it was left in to preserve working space in the program. It does work.

## Meeting Notes

*By Hank Dickson*

President **Mannie Quintero** conducted one of his highly appropriate supersonic business meetings in October which allowed all necessary items to be covered without impeding the roll to the main event of the day.

## Picnic

It was agreed that the September picnic at the Cheseapeake Bay-side home of member **Bob Diggs** was another gem in this series of highly successful outings. Although Bob and his wife **Betty** had changed the color of their house in the past 12 months, it was to no avail: all the CATS people were able to find it, anyway. The seasonal hurricanes took a break just along enough to

provide a pleasant afternoon along with the promise of some sunshine to follow. We owe many thanks to Bob and Betty Diggs for their cheerful patience and genuine hospitality over the past three years.

#### New Member

James Hall of Gaithersburg signed up as a new member at the October meeting and conveyed his dues to Treasurer Barry Washington. James explained that he had belonged to the CATS organization some years ago, and was interested in finding out if the group still existed at all. He has owned Sinclair products from the ZX-81 to the QL, and enjoyed them all. James and his grandson, Michael Varney, who accompanied him to New Carrollton, were warmly welcomed by the group.

#### Meeting Room

Very early in November, Executive Committee Member Joe Miller will be asking the P.G. County library system for meeting room assignments for the next 12 months.

This year there will be a fee charged for using the meeting rooms: \$15 for a small conference room and \$30 for a large meeting room.

After some discussion, a consensus was arrived at to request a small conference room the second Saturday of each month at New Carrollton Library. Joe said he would go ahead and do this.

The information provided by the library system said that with two weeks' notice and an additional \$15, an upgrade could be made to the large meeting room, provided there were no prior reservations by another group.

As an historical note, this same concept was instituted by the library the same year CATS began. The fees were slightly smaller, but the plan to help a shrinking budget was the same.

It was abandoned after just a few months because of all the administrative headaches involved in administering and collecting the fees. The revenue from the fees was tiny compared to the time and money spent running after the elusive dollars. Also, groups stopped using the meeting rooms, rather than use their money. The library system abolished the project and sheepishly refunded the fees they had collected.

Ten years later, the library system is living in a truly draconian environment. There is no custodian to admit us on the days of our scheduled meetings. The user fees for the rooms will probably stick this time, but it is doubtful if the effort will save even one job in one branch library anywhere in the county.

### XTender - A Review

*By Tim Swenson*

XTender is a ZX81 emulator for MS-DOS, written by Carlo Delhez. XTender will run on any MS-DOS PC, from a simple XT to the latest 386 or 486. XTender is a shareware program. Registration costs 50 Dutch Guilders (Carlo lives in the Netherlands).

XTender makes your PC look and feel like a ZX81. The screen looks exactly like a ZX81 and the keyboard works exactly the same (but you have to know what the keyboard layout is). Programs are saved on disk and are loaded just like a cassette program, but XTender does not support any interface to cassettes.

XTender functions like a ZX81 with 64K, POKEable ROM, machine code can be run above 32K, easy screen reverse option, supports Hi-Res, etc. It's almost a SuperZX81.

XTender comes with built-in commands that allow an interface into the MS-DOS file system. \*CD changes the current directory, \*DIR shows the ZX81 files in the directory, \*MD makes a new



directory, and so on. I've never played with a ZX81 with disk interface, but this link to the MS-DOS file system is very powerfull and easy. Can you imagine having a Meg or two of ZX81 programs on disk?

XTender on a 8 MHZ PC is VERY slow. On my 8088 laptop it takes about 4 minutes just to start. But on my 33 MHZ 386 at work, it zips along. Playing any video type games with XTender on a 386 is hard because the emulator works so fast. My 386 was 900% faster than a ZX81.

XTender does have some options to make it run slower. It should run better on a 286 AT type PC.

XTender comes with a few sample programs, including a Coral Basic Interpreter written by Carlo. Carlo has over 160 programs available to registered users of XTender. Carlo has copied some commercial software, but feels that no one is still selling this software, so no one is out any money.

Upon startup, the 8-16K area contains a version of ZX-ASSEMBLER-2, a revised version of the program put out by Artic. Since the ROM is really in RAM, you can use the assembler to change the ROM and customize it.

The program comes with about 16 pages of documentation on disk. The documentation does go into detail about the emulator and the memory map.

The biggest limitation in using XTender to replace your ZX81 is that it does not support printer output. There is no way to get your data to a printer. Future versions are supposed to fix this problem.

Carlo also has a ZX81 emulator for the QL called Xtricator, but it would be interesting to see XTender running on the QL under the MS-DOS emulator. On a regular QL it would be way too slow, but with a Gold Card, it might actually be usable, maybe.

## News From MausNet

*By Tim Swenson*

MausNet is a collection of Sinclair BBS's in Europe that pass messages between themselves, plus some systems on the Internet. Through this Internet connection I am able to get a feed of MausNet postings/articles/messages.

MausNet is broken into two groups, `maus.comp.ql` and `maus.sys.ql`. `maus.comp.ql` carries discussions about the QL in general, while `maus.sys.ql` covers QL programming.

Most of the articles posted are small chit-chat messages between readers. Some do carry some good information, where the others, when linked by a common thread, take on full meaning. This article will be discuss the more interesting information coming from the other side of the pond. If you would like more information on what is mentioned here, drop me a line and I'll get it to you.

Pointers and Mice: There has been some discussion of pointer systems. For those that don't know about the pointer systems (like me), it's a library of routines that allow programs compiled with it to use a mouse. The PE takes care of windows overlapping each other. One PE is EASYPTR and an other is the Pointer Interface. Here is part of an posting about PI.

The Pointer Interface (PI) is implemented via the extension PTR GEN. It provides an extended and modified console driver and forms the lower level of the "Pointer Environment". For the programmer it provides code to allow applications to read the pointer and so on.

The PE is formed by the combination of Pointer Interface and Window Manager. The Window Manager is implemented via the extension WMAN. The Window Manager is a set of utility routines which assist

with the maintainance of windows, and which forms the higher level of the PE. A number of routines are provided which translate and interpret data structures either set up or contained within a program. Translation involves conversion of a "window definition" of the form recognized by the Window Manager to a "working definition". Interpretation frequently takes the form of drawing or re-drawing part of a window.

The Hotkey System II is not part of the PE. Instead the combination of Hotkey System II and PE is referred to as Extended Environment (EE).

[ Bernard Scheffold ]

QUASAR: The German QL club's quarterly newsletter is available by joining the club (no separate newsletter rate) for 41 DM per year. Payment should be made in DM. Back issues (QUASAR #23 and forward) are available for 3 DM each (plus postage). Copied back issues (all) cost roughly the same.

QL and EGA Monitor: There have been a few replies to a query about how to hook up a QL to an EGA monitor. One replies seems to detail the connection, but a few follow up articles discuss the feasibility even further. One even says that it should not work. I'll leave this up to those who know more than I.

Multitasking and the QL: One reader asked the question about multitasking in MS-DOS, Windows, OS/2 and the QL. He mentioned the terms "truely preemptive" and "cooperative". Here is the response:

The QL is "truely" preemptive.

Cooperative means each task switches by itself to the next task in the queue of tasks (in Forth this is called "Round Robin"). Code can be much more faster this way. (Mac works in the cooperative way, too)

Preemptive means there is a supervisory instance being called

independently from what the running tasks do otherwise, activated by a clock via an interrupt. Code doesn't run as fast this way, as the list of tasks has to be looked up each time a task switching occurs. But it is a much more secure way for an operating system.

Besides, it is more easy to write reentrant code when task switching occurs in cooperative manner. Writing such code is Forth, I only have to save/restore 3 or 4 registers and do 2 jumps and the code remains reentrant for all tasks (if no common variables are used). The other way all registers have to be saved/restored and jumping upon hardware interrupt isn't as fast as this.

Used by an operating system, the interrupt driven tasker is able to create time slices more reliably. The cooperative tasker only can approximate that - as it is up to the programmer, how often CPU time is given up, in favor of what else happens to run, when this code is executed.

[ Erwald Pfau ]

## T/S 1000 as an Intelligent Lab Station Terminal

(Adapted from an article which originally appeared in the newsletter of the Boston Computer Society in December, 1982.)

By Larry Becker

Imagine a science laboratory with up to 16 stations, each containing a computer capable of instrument control as well as analog and digital data collection. Each lab station computer could either display the data as they are being received or store the data. The stored data could then be sent to a larger computer for storage on disk and for later analysis and display.

The incoming data at the lab station could be sampled at selectable time intervals or,

alternatively, sampled at the request of an external signal. In addition, the lab station could generate digital or analog signals for control of stepper motors or voltage-controlled instrumentation used in experiments. A nice thought, you say ... but, oh, the expense!

Now suppose that each lab station costs no more than \$300 (including the computer, computer memory, interfacing hardware, and TV monitor); and the large host computer with which the lab station communicates was an unmodified Apple computer.

Interested?

During the past few months at Technical Research Centers (TERC) in Cambridge, MA, while on sabbatical leave from the Physics Department of Hiram College, I have been developing the hardware and software which will turn the Timex/Sinclair microcomputer into the intelligent lab station described above.

The T/S 1000 with a 16K memory pack can be purchased for under \$100. The interface hardware which allows the above capabilities has been built and thoroughly tested. The hardware and user-friendly software should not cost more than \$100. A \$300 lab station is feasible!

The prototype interfacing board (see photo) measures 7-1/2 by 5-1/2 inches. It should be possible to reduce the size to about 4 by 5 inches. Consequently, not only will the cost be low, but the size will be such as to take up very little space at the lab station. The TV monitor will be the biggest part of the system.

Preliminary software includes four programs. The first program displays the voltage levels on 2 of the 8 analog input channels on the interface board (see First Screen). A marker on the voltage line for each channel moves back and forth as the level is changed. A program such as this would be helpful during experiment set-up to determine if the voltage levels from the equipment are within the 0 to 5 volt range needed for the interface circuitry.

The second program samples the input voltages and plots the values on a time axis while the voltage is varying. For example, it generates a sine curve on the monitor as a potentiometer is rotated by a swinging pendulum. In its present form, the program plots the curve with 32 large squares. Double this resolution is possible. A curve made up of 64 data points, however, is still much too coarse for most experiments. Therefore, this program would be used in setting up an experiment, not in collecting the actual data.

A third program allows the collection of 500 data points at sampling time intervals of multiples of 100 microseconds. Once the data have been stored in the Timex/Sinclair, the communications portion of the program, together with a receive/send program in the Apple, can transfer the 500 data points to the Apple in one-half of one second. The transfer rate is 20,000 bits per second. The connection to the Apple is through its paddle port.

Consequently, the transfer of data can be made to an Apple II, an Apple II+, or an Apple IIe with no hardware modification. Once the data have been transferred to the Apple, a high resolution graphics program can be run to plot the data. The Second Screen shows the display which was obtained after a 10 second collection period (500 data points) for a swinging pendulum.

A fourth program has been written which allows the Timex/Sinclair to receive data from the Apple, again at 20,000 baud. In the planning stage is software which will load programs from the Apple into the Timex/Sinclair. With this capability, a cassette tape recorder will not be needed at each station.

When all is completed, the system ---with up to 16 lab stations networked to the Apple---will be controlled by the Apple. Each Timex/Sinclair will have the capability to request programs from the Apple. The programs will

include those for specific experiments (e.g., the swinging pendulum) as well as general-use programs. With an almost unlimited demand perceivable for low-cost lab station networks around the country, the future for Timex/Sinclair in the field of lab automation seems promising, indeed!

(Epilogue: Author Larry Becker was reached this month at Hiram College, the same place he was when this article was published 10 years ago.

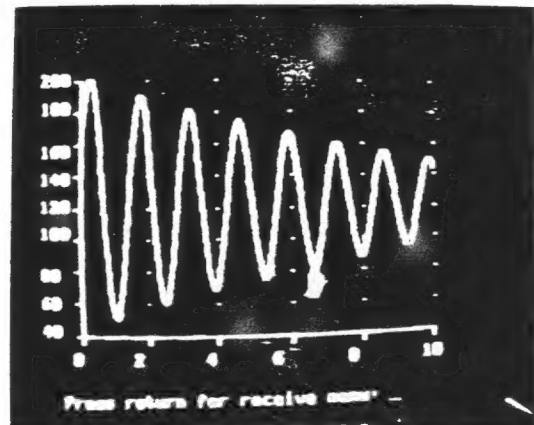
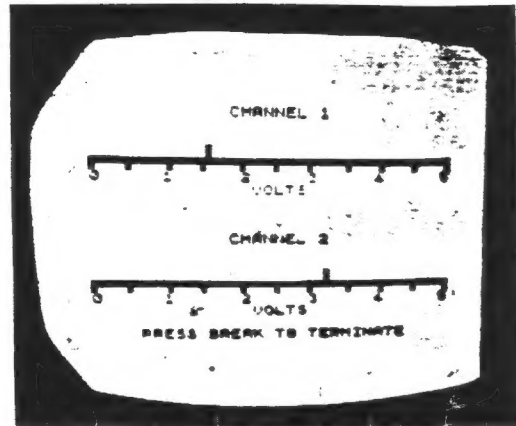
He remembers the T/S lab automation project with fondness. It only sputtered when Timex abandoned its computer product and the certainty of replacements became questionable.

Larry went on to develop popular college courses about contemporary microprocesors, mainly the 8088, Z-80, and the 6800.

As a result of presentations about his lab automation work, he became---during the school year---a consultant to a small New England computer firm. He also has worked then and now with the same firm during the collegiate summer break.

He still welcomes comments and suggestions about this special undertaking, and is reachable via:

Larry Becker  
Department of Physics  
P.O. Box 1778  
Hiram College  
Hiram, Ohio 44234  
(216) 569-5248





## Passing of a Member

It is the sad duty of the Newsletter to report the passing of a CATS member, Judy Muir of Donora, PA.

Judith Anne Rusher Muir, 51, of Carroll Township, died Weds, Sept 23, 1992, in Jefferson Hospital, Pittsburg.

Born Nov. 20, 1940 in Latrobe. A daughter of Lewis Glenn and Mable Lucinda Noll Rusher. Mrs. Muir attended First United Methodist Church in Donora. She was a tailor at Pat Backer Inc. of Donora.

Mrs. Muir founded and organized the Mid-Mon Valley Computer Club. She was a member of various computer clubs in Western Penn. and West Virginia and a member of the Orchid Society of Western Penn.

Surviving, in addition to her parents, 1 son, Patrick Fred Muir, of Murrys ville; 1 daughter, Susan Mary Muir Sansonetti, of New Alexandria; a brother, Byron Alford Rusher of Blairsville; and two grand children.

She made her home with a companion, Ralf Vasko

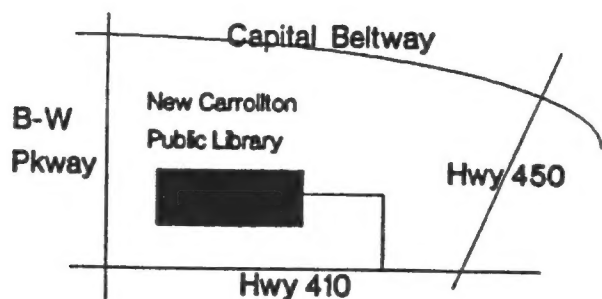
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The Capital Area Timex/Sinclair  
Users Group is a not-for-profit group  
devoted to serving the interests of those who  
own, use, or are interested in the Timex/  
Sinclair family of computers.

# FIRST CLASS MAIL



CATS Newsletter  
P.O. Box 11017  
Takoma Park, MD 20913

The next meeting of CATS will be held on: November 14, 1992

11:00 AM Hardware Workshop  
2:00 PM General Meeting

At: New Carrollton Public Library 7414 Riverdale Road (Hwy 410), New Carrollton, MD

**IF YOU ARE NOT A MEMBER OF CATS. THIS IS THE ONLY ISSUE YOU WILL RECEIVE**

Meetings  
Monthly meetings are held from 11:00 AM to  
4:30 PM, on the second Saturday of each  
month, at the New Carrollton Public Library.  
Newsletter  
Memberships cost \$15 per year, are good for 12  
months, and include all privileges (access to  
libraries, group buys, etc.). A newsletter only  
subscription is available for persons living  
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